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The Long, Hot Summer and Sustainable Preservation Environments

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The Long, Hot Summer and Sustainable Preservation Environments

By Sara Holmes

This past summer saw records repeatedly broken, even before July was officially declared the warmest month ever recorded by the National Climatic Data Center. Extreme heat raises energy bills and collection preservation concerns. Balancing the two is important for preservation as well as for the pocket book, and a thorough understanding of a building's HVAC system is necessary for the health of any archives. A 10,000-square-foot collection area can cost $20,000–$50,000 per year to control temperature and humidity levels.[1]

Traditionally, archives, libraries, and museums have followed a "flat line" recommendation to hold collection environments at 70 degrees Fahrenheit and 50 percent relative humidity (RH). However, research conducted by the Smithsonian and the Image Permanence Institute is demonstrating that there are better and more cost-effective approaches to managing environments without sacrificing collections care.

In looking at preservation environments, there are a variety of factors to consider, but the most important components are temperature and RH. Both can increase the rate of decay: heat, by creating chemical reactions; moisture, by swelling, warping, corroding, and increasing biological activity. Given enough time, collections can adjust to environmental conditions by reaching a new equilibrium point. However, changes in temperature alone are not necessarily a problem in preserving collections, as long as materials are not subjected to sustained periods of high temperatures. Temporary spikes or wide seasonal fluctuations in temperature will not alone have a significant impact.

Materials can adjust to temperature changes within a span of hours, but adjusting to changes in moisture can take days or weeks. Hygroscopic materials will absorb or release moisture in order to reach equilibrium with the environment, while non-hygroscopic materials, such as metals, do not adjust their moisture content, and instead can corrode or experience other problems. Short-term fluctuations, such as an air handler breaking down, will not immediately affect materials. If the environment is restored in a few hours, most materials will only have begun to have adjusted to higher humidity levels and will not have reached full equilibration.

For many archives, limiting outside air into their HVAC systems can result in cost savings because the moisture content outside is usually higher or lower than the storage area. This reduces the amount of air that needs to be dehumidified during hot, steamy summer months, thus reducing the amount of energy needed to maintain preservation storage environments. But each storage area needs to be assessed within its own building facility and local climate to determine the optimal level for maintaining a building's mechanical systems.

Steps that can be taken to explore reducing costs while maintaining a preservation environment are:

- Finding floor and mechanical plans for the building, and determining air handler unit services;
- Beginning a dialogue with your building facility staff;
- Identifying sources of heat loads and moisture sources within the building;
- Learning to understand dew point and how to manage it within the context of local climates and the building; and
- Setting up an Environmental Management Team.

Tools to help get started are:

- The Image Permanence Institute's (IPI) Web site for Sustainable Preservation Practices, which includes workbooks, videos, and other resources. Also consider attending one of IPI's free two-day workshops this year. The Midwestern Venue is scheduled in Chicago on November 14–15. Webinars are also planned for 2013 from January to June. See http://ipisustainability.org for more information.
- The site "From Gray Areas to Green Areas: Developing Sustainable Practices in Preservation Environments" includes conference proceedings from the 2007 symposium held at the School of Information's Kilgarlin Center for Preservation of the Cultural Record at the University of Texas, Austin. See http://www.ischool.utexas.edu/kilgarlin/gaga/ for more information.

(Continued on page 26)

(Continued from page 25)

Society of American Archivists (SAA)

SAA continues to offer a variety of useful continuing education opportunities. Additional information can be found at http://saa.archivists.org/Scripts/4Disapi.dll/4DCGI/events/ConferenceList.html?Action=GetEvents.

Society of Georgia Archivists (SGA)

The SGA will hold its 2012 Annual Conference from November 8–9, 2012, on Saint Simon's Island, Georgia. The conference theme is "Brave New World: Next Steps in the Archives Profession." See http://georgiaarchivists.blogspot.com/2012/02/sga-2012-call-for-submissions.html for more information.

Society of Tennessee Archivists

The Society holds its annual meeting in Knoxville, Tennessee, from October 15–17. The theme of this year's meeting is "Red, White, Blue and Recorded: Collecting and Preserving Politics in Tennessee."

Southern Historical Association (SHA)

The SHA's annual meeting is scheduled for November 1–4, at the Renaissance Riverview Plaza Hotel, in Mobile, Alabama: http://sha.uga.edu/meeting/index.htm.

News From the Midwest

(Continued from page 12)

Notes

1. Pierre Couperie and Maurice C. Horn, A History of the Comic Strip, trans. Eileen B. Hennessy (New York: Crown Publishers, 1968): 115.
2. Bill Blackbeard, *R.F. Outcault's The Yellow Kid: A Centennial Celebration of the Kid Who Started the Comics* (Northampton, MA: Kitchen Sink Press, 1995): 23.
3. Couperie and Horn, A History, 4.

Preservation Essentials

(Continued from page 19)

Notes

1. Costs estimated by Herzog/Wheeler firm study. Patricia Ford, "Seminar Reference Workbook for Sustainable Preservation Practices for Managing Storage Environments," Version 1.2, Image Permanence Institute, November 2010, http://ipisustainability.org/pdfs/sustainability_workbook_minnesota.pdf.